

08/147,038



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08/147,038 11/04/93 FOSS

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628.30090CX1

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EXAMINER

BSN2/0106

ANTONELLI, TERRY, STOUT & KRAUS  
SUITE 600  
1919 PENNSYLVANIA, AVE., N.W.  
WASHINGTON, DC 20006

ART UNIT

PAPER NUMBER

17

2502

DATE MAILED:  
01/06/94

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on \_\_\_\_\_ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

## Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.                 | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152.       |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____   |

## Part II SUMMARY OF ACTION

1. ☒ Claims 1-17 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2. ☐ Claims \_\_\_\_\_ have been cancelled.

3. ☐ Claims \_\_\_\_\_ are allowed.

4. ☒ Claims 1-17 are rejected.

5. ☐ Claims \_\_\_\_\_ are objected to.

6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).

12. ☒ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received  
☒ been filed in parent application, serial no. 07/680,747; filed on 04/05/91.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1835 C.D. 11; 453 O.G. 213.

14. ☐ Other

EXAMINER'S ACTION

Art Unit 2502

1) The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested:

DYNAMIC RANDOM ACCESS MEMORY USING IMPERFECT ISOLATING  
TRANSISTORS.

2) The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

- A person shall be entitled to a patent unless --
- 3) (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.
- 4) (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- 5) Claims 1-17 are rejected under 35 U.S.C. § 102(e) as being clearly anticipated by CHEN Y. WANG ( 4,991,142 ).

a) WANG discloses a dynamic random access memory ( DRAM ) as claimed in claims 1,6,7,10 and 16, comprising :

a plurality of bit storage capacitors ( column 1, lines 10-17 );

a folded bit line comprises of a complementary pair bit lines ( Fig.1, Bit lines in row );

a sense amplifier ( Fig.1, 26,28 );

high resistance controllable current leakage imperfect isolating means ( Fig.1, Isolators 14, Isolator control  $\phi 3$  );

*means for applying an enabling voltage for causing effective current to leak through the imperfect isolating means ( Fig.1, Enabling Voltage  $\phi 3$  );*

means for enabling sense amplifier ( Fig.1,  $\phi 5$ ,  $\phi 6$  );

means for disabling isolating means ( Fig.1,  $\phi 3$  );

power supply means for providing full high and full low logic level voltage ( Fig.1, Vss, Vcc );

a pair of field effect transistors connected to power supply, and means for providing restore and sense signals to gates of these FETs ( Fig.1, FET 34, FET 32,  $\phi 6$ ,  $\phi 5$  ).

b) As to claims 2,4 and 17, WANG shows isolating means including a pair of field effect transistors ( Fig.1, 14 ).

c) As to claims 3 and 5, WANG shows disabling means comprises a voltage source (  $\phi 3$  ).

d) As to claims 8,9,14,15, WANG shows sense amplifier in figure 1, RT1, RT2, SA3, SA4 FETS 34,32 and  $\phi 6$ ,  $\phi 5$  ).

e) As to claims 11-13, WANG shows DRAM comprises a plurality of bit lines and associated with sense amplifiers ( see figure 1, Bit Lines 10, 12 ).

6) Claims 1-17 are further rejected under 35 U.S.C. § 102(b) as being anticipated by MIYAMOTO et al ( 4,780,850 and 4,803,663 ).

*MIYAMOTO et al* discloses a DRAM as claimed in claims 1-17 (

Art Unit 2502

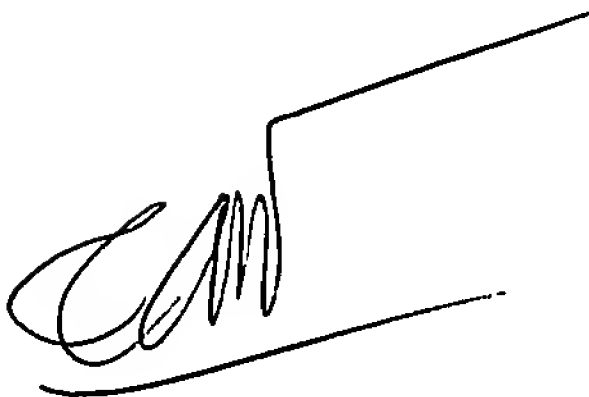
see U.S Patent No. 4,780,850 figure 12, Isolators Q14, Q15;  
Isolator control TR; Sense Amplifier Q1a, Q2a, Q3a, Q4a; Power  
Sources Vcc, Vss; FETs QSNa, QSPa; Enabling Signals SNa, SPa; and  
see also U.S patent No. 4,803,663, figure 1, Isolators QT3, QT4;  
Sense Amplifier SA; Power Source Vcc, Vss; FETs QN5, QP5;  
Enabling Signals SN, SP1 ).

7) Applicant's arguments filed November 4th 1993 have been fully  
considered but they are not deemed to be persuasive.

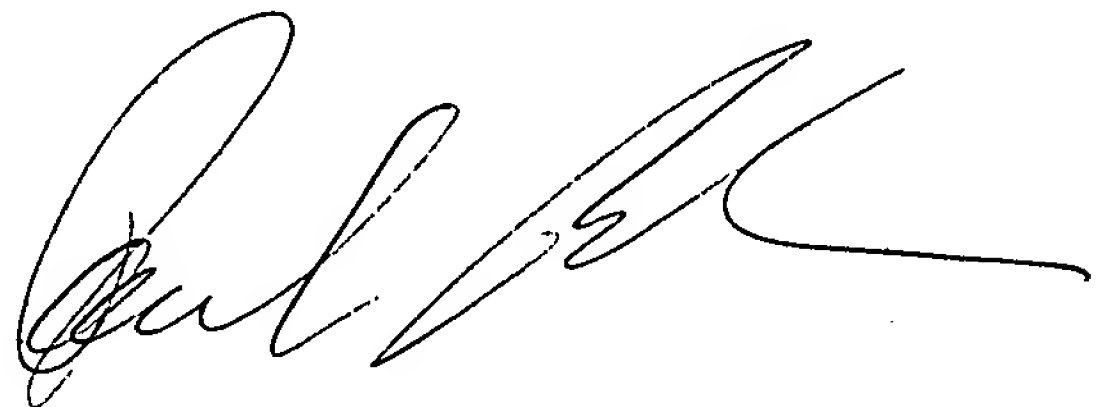
The newly added "*means for applying an enabling voltage for causing effective  
current to leak through the imperfect isolating means*" is found in WANG as  
indicated in paragraph (5) above. The remain claims are still  
rejectable under prior art of WANG and MIYAMOTO et al.

8) Any inquiry concerning this communication or earlier  
communications from the examiner should be directed to TAN DINH  
whose telephone number is (703) 308-4859.

Any inquiry of a general nature or relating to the status of  
this application should be directed to the Group receptionist  
whose telephone number is (703) 308-0956.



T.D  
January 03, 1994



PAUL GENSLER  
EXAMINER  
GROUP ART UNIT 252